

REMARKS

1. Summary of Office Action

Presently pending are claims 1-48, of which claims 1 and 46 are independent, and the remaining ones are dependent. In the Office Action mailed March 9, 2007, the Examiner rejected claims 1, 2, 4-9, 11-17, 20-30, 34-37 and 45-47 under 35 U.S.C. § 102(e) as being anticipated by US Patent 6,962,566 (Quistgaard). The Examiner also rejected the following claims under 35 U.S.C. § 103 as being obvious: claims 3, 10, 18, and 19 in view of the combination of Quistgaard and US Patent 6,139,496 (Cheu); claims 31-33, 35 and 48 in view of Quistgaard and US Patent 6,251,073 (Imran); claims 8, 9, 38 and 39 in view of Quistgaard and US Patent 6,488,625 (Randell); claims 40-43 in view of Quistgaard and US Patent 5,549,708 (Thorne); claim 44 in view of Quistgaard and US Patent 4,596,256 (Ascher).

Applicant has submitted amendments herewith, canceling claims 10, 16, 17, and 36-39, and has added new independent claim 49 and new dependent claims 50-55.

2. Claimed Invention

The present application is directed to a system having a housing, two-dimensional transducer array, and a display, where the system displays images of an image plane located substantially directly below the display. The images are of an area that is substantially aligned with the display and/or transducer, or may be considered to be a projection of the image plane onto the plane of the display. By providing images in this way, the user is able to intuitively interpret the image in the context of the physical position of the display/transducer with respect to the target being imaged.

It should be understood that the preceding brief summary is intended to call attention to only certain aspects of Applicants' presently claimed invention that are generally relevant to the following discussion. Consequently, the summary should not be viewed as encompassing all aspects previously disclosed and/or claimed, nor limiting the scope of Applicants' presently claimed invention in any new manner.

3. Response to Rejections under 35 U.S.C. § 102(e)

As noted, the Examiner rejected claims 1, 2, 4-9, 11-17, 20-30, 34-37 and 45-47 as being anticipated by Quistgaard. Applicants respectively traverse. Under M.P.E.P. § 2131, a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. Applicants submit that Quistgaard fails to teach each and every element set forth in any of independent claims 1 or 46, or new independent claim 49.

a. Quistgaard does not Disclose Displaying Image Planes as a Projection onto the Display

Applicants have amended claim 1 to clarify that the displayed image corresponds to an image plane located below the plane of the display, and that the image plane is projected onto the plane of the display, such as in C-mode imaging.

In rejecting independent claim 1, the Examiner cited to Quistgaard Col. 7, line 64-67; col. 8, lines 1-3 and Col. 17, lines 46-48 for the proposition that Quistgaard discloses C-mode imaging of a target. Applicants have reviewed Quistgaard and have found no teaching or suggestion of C-mode imaging. Rather, the Quistgaard reference appears to depict B-mode imaging, where the image is a vertical slice, extending perpendicularly away from the transducer face. For example, Quistgaard explains that scanlines are

processed by incrementally increasing the aperture as the depth of the particular scanline increases (See. Col. 9, Lines 6-20). One can infer that because the entire scanline is captured, that Quistgaard is describing a B-mode scan. Furthermore, as described more fully below, the device of Quistgaard uses a one-dimensional transducer array, which is typically used for capturing B-mode images.

With respect to claim 46, C-mode imaging is explicitly recited as an element, and newly submitted independent claim 49 also describes that the displayed image corresponds to an image plane that is located underneath the two-dimensional transducer array and is in substantial alignment with the two-dimensional transducer array and the display unit.

The prior art fails to show a system or method where images are of an area that is substantially aligned with the display and/or transducer, or may be considered to be a projection of the image plane onto the plane of the display. Applicants therefore submit that for at least this reason, claims 1, 46 and 49 and the claims depending therefrom are allowable.

b. Quistgaard does not Disclose a 2-Dimensional Transducer Array

Similarly, claim 1 was amended to clarify that the transducer array is two-dimensional. Applicants have reviewed Quistgaard and have found no teaching relating to a two-dimensional transducer array used in a system having an integrated display and transducer to provide images of image planes located below the plane of the transducer and/or display. Applicants note that B-mode scanning only requires a one-dimensional array as described in the system of Quistgaard. Applicants submit that for at least this

reason, the 102 rejections of claim 1 should be withdrawn. Applicants note that the other independent claims 46 and 49 also recite two-dimensional transducer arrays.

4. Response to Rejections under 35 U.S.C. § 103

The independent claims 1, 46, and 49 are not presently rejected under §103. In view of the arguments set out above, Applicants submit that the independent claims 1, 46, and 49 are allowable, and thus claims depending therefrom are also in condition for allowance. Applicants do not concede the Examiner's rejections with respect to the remaining §103 (or §102) rejections of the dependent claims.

Therefore, Applicants submit that the application is in good and proper form for allowance and respectfully request the Examiner to pass this application to issue. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney, at 312-913-3305.

Respectfully submitted,
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